Notice of Allowability	Application No. 10/084,387	Applicant(s) MASAKI ET AL.	
	Examiner Bentsu Ro	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *applicant's RCE filed 4/13/2004*.

2. ☒ The allowed claim(s) is/are *1,2,4-8,11-17 and 19-23*.

3. ☒ The drawings filed on *28 February 2002* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 4/13/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Bentsu Ro
Senior Examiner
Art Unit: 2837

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

This application was allowed on 2/2/2004. However, applicant abandoned this application on 4/13/2004 and filed a Request for Continued Examination (RCE) with a sheet of Information Disclosure Statement (IDS). Thus the purpose of this RCE is to have the examiner to consider the cited references.

In the IDS, applicant has cited three references. These references do not teach the claimed subject matter, therefore, this application is still allowable.

The following explanation describes the difference between the cited references and the claimed subject matter.

US Patent No. 5,903,129:

This reference teaches a current sensor 7 for sensing a motor phase current (Fig. 1). The sensed motor current is used to determine the rotor position via several circuits including phase conversion, coordinate conversion, angular velocity determination and low pass filter, etc (Fig. 2).

The claims are claiming a rotor position determination based on (1) a current differential value Δiu (see applicant's Fig. 1), (2) reference current differential value Δi cu, and (3) comparing the difference between the Δiu and the Δi cu to determine the rotor position. See claims 1, 2, 4, 17.

The Patent 5,903,129 does not teach a differential current value for determining a rotor position.

EP 0 856b937 A2:

This reference teaches a motor rotor position determination based on (1) a differential normalized current waveform, see Fig. 1, step 50, (2) a variable voltage reference 36, see Fig. 2, and (3) comparing the difference between the differential current waveform with the reference voltage to determine a rotor position.

This reference does not teach a reference current differential value and compare the differential current value with the reference current differential value as claimed in claims 1, 2, 4, 17.

EP 1 107 448 A2:

This reference teaches a motor rotor position determination based on the difference of two consecutive current vector difference signals, namely, based on a double difference current vector signal.

The following is an analogous example. If we read "current" as a "position" in our more familiar physics, then this EP reference teaches an "acceleration" signal alone as a signal for the rotor position determination whereas the claims are claiming a comparison or a difference of a "measured velocity" with a "reference velocity" as a signal for rotor position determination.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bentsu Ro whose telephone number is 571 272-2072. The examiner can normally be reached on Mon-Fri, 7:30-5:00.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bentsu Ro
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